

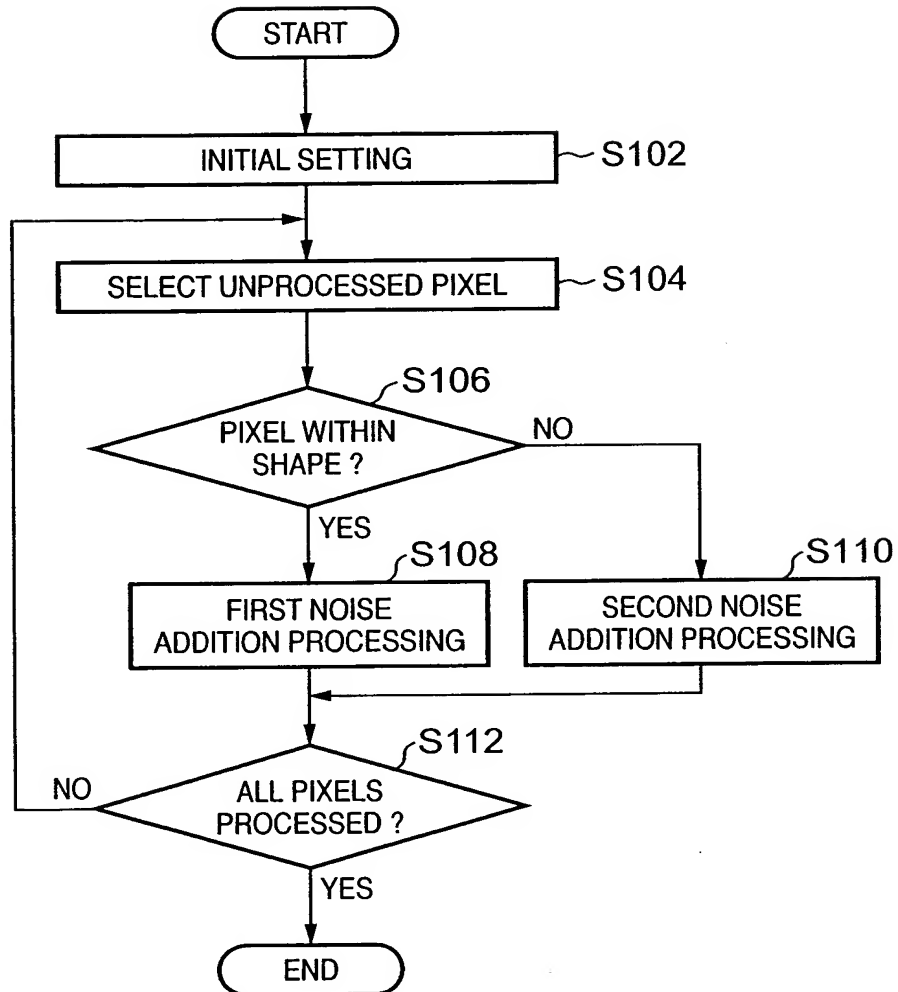
FIG. 1

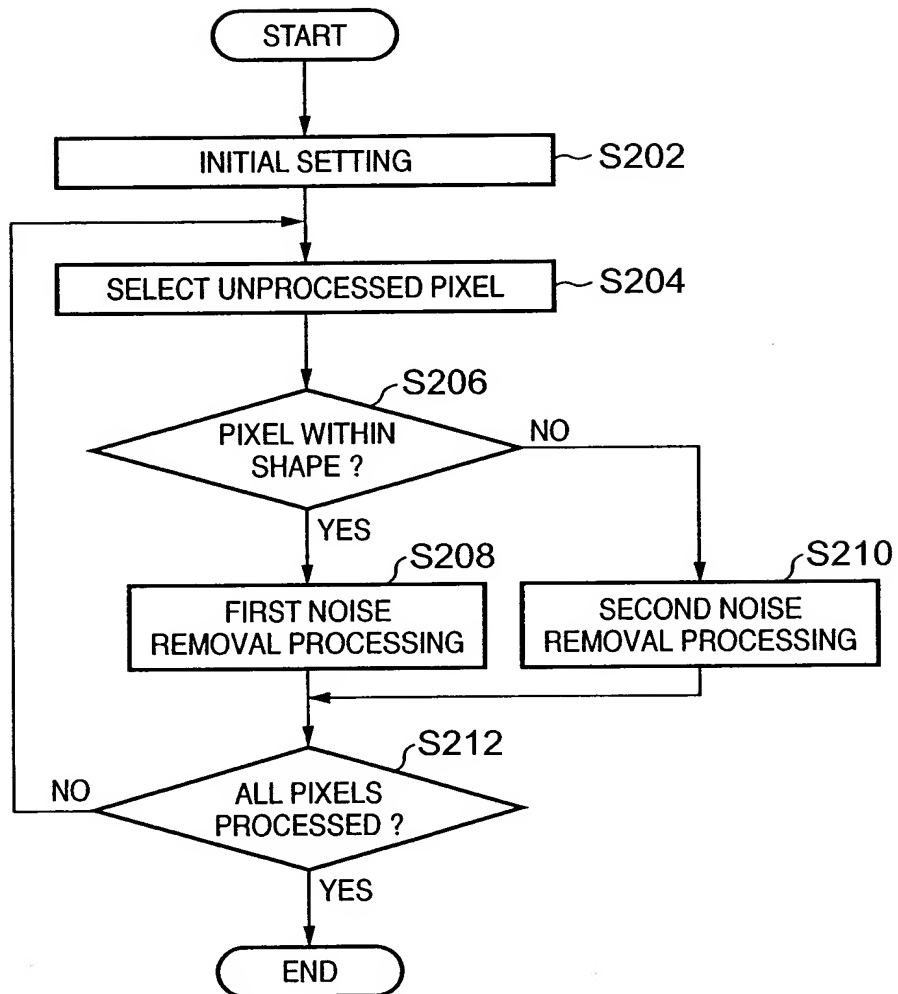
FIG. 2

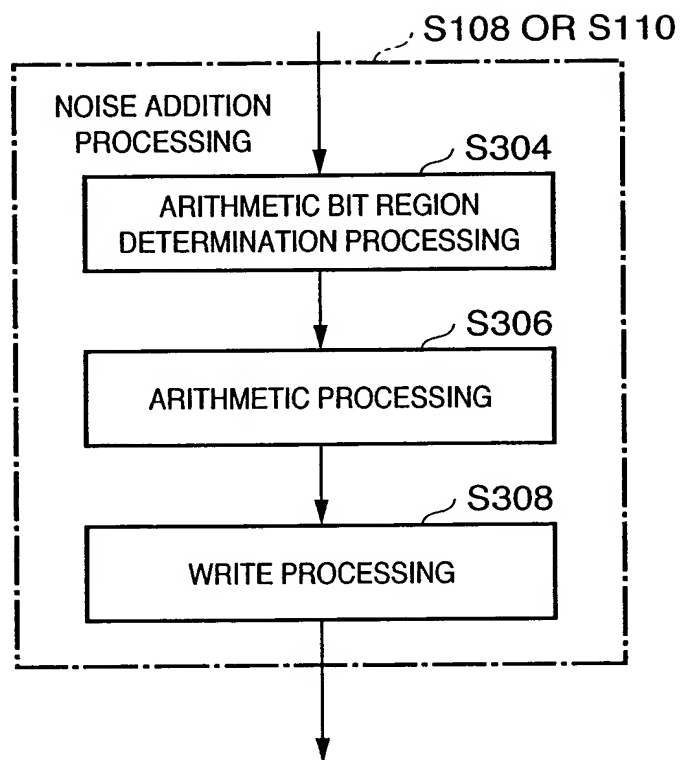
FIG. 3

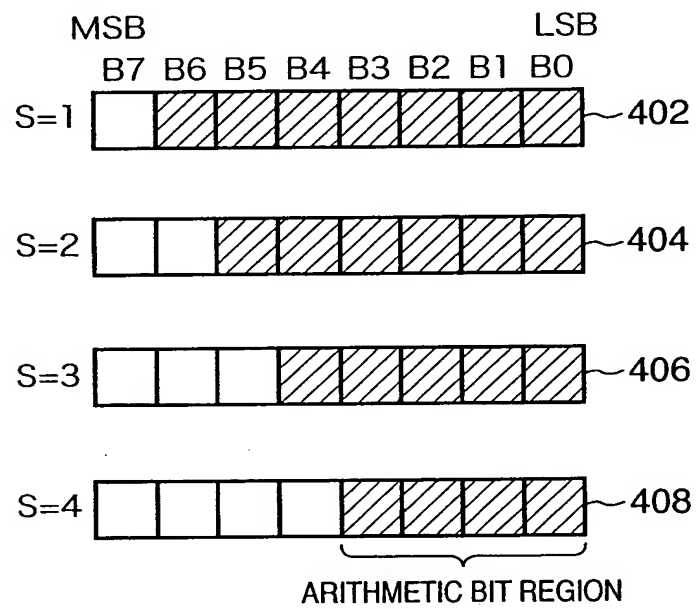
FIG. 4

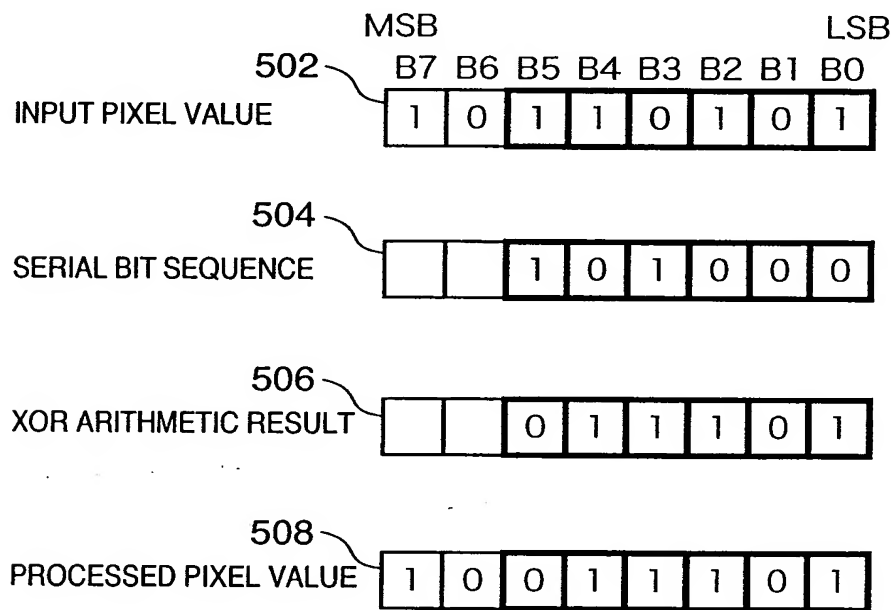
FIG. 5

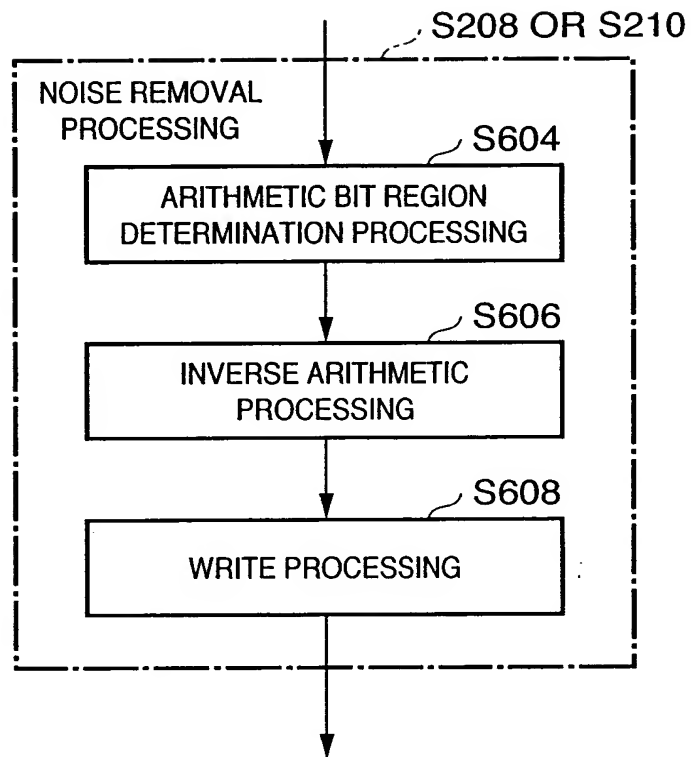
FIG. 6

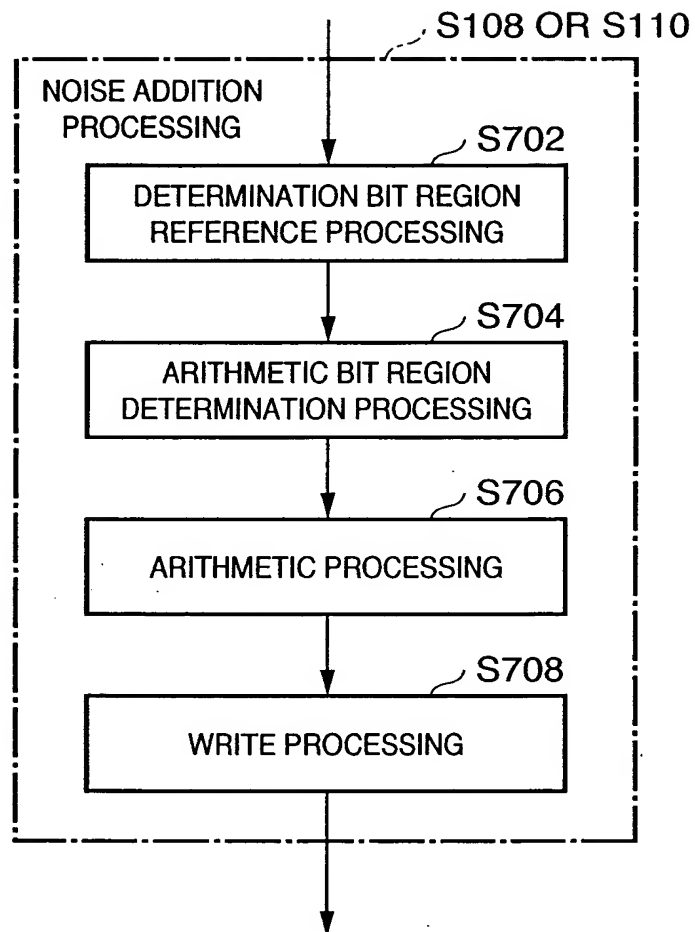
FIG. 7

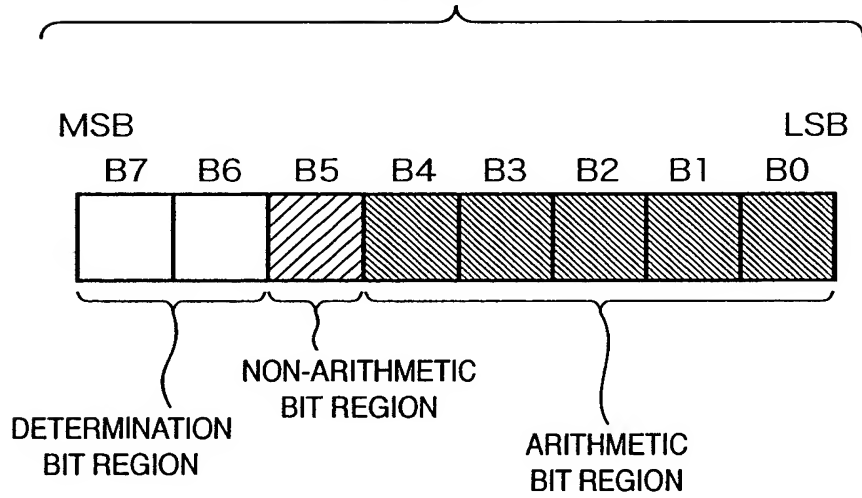
FIG. 8

FIG. 9A

| DETERMINATION BIT REGION | | ARITHMETIC BIT REGION | | | | | | |
|-----------------------------|----|--------------------------|----|----|----|----|----|-----------------|
| B7 | B6 | B5 | B4 | B3 | B2 | B1 | B0 | Δ_{\max} |
| 1 | 1 | Y | Y | Y | Y | Y | Y | 63 |
| 1 | 0 | | Y | Y | Y | Y | Y | 31 |
| 0 | 1 | | | Y | Y | Y | Y | 15 |
| 0 | 0 | | | | Y | Y | Y | 7 |

FIG. 9B

| DETERMINATION BIT REGION | | ARITHMETIC BIT REGION | | | | | | Δ_{\max} |
|-----------------------------|----|--------------------------|----|----|----|----|----|-----------------|
| B7 | B6 | B5 | B4 | B3 | B2 | B1 | B0 | |
| 1 | 1 | | | Y | Y | Y | Y | 15 |
| 1 | 0 | | | | Y | Y | Y | 7 |
| 0 | 1 | | | | Y | Y | Y | 3 |
| 0 | 0 | | | | | | Y | 1 |

FIG. 10

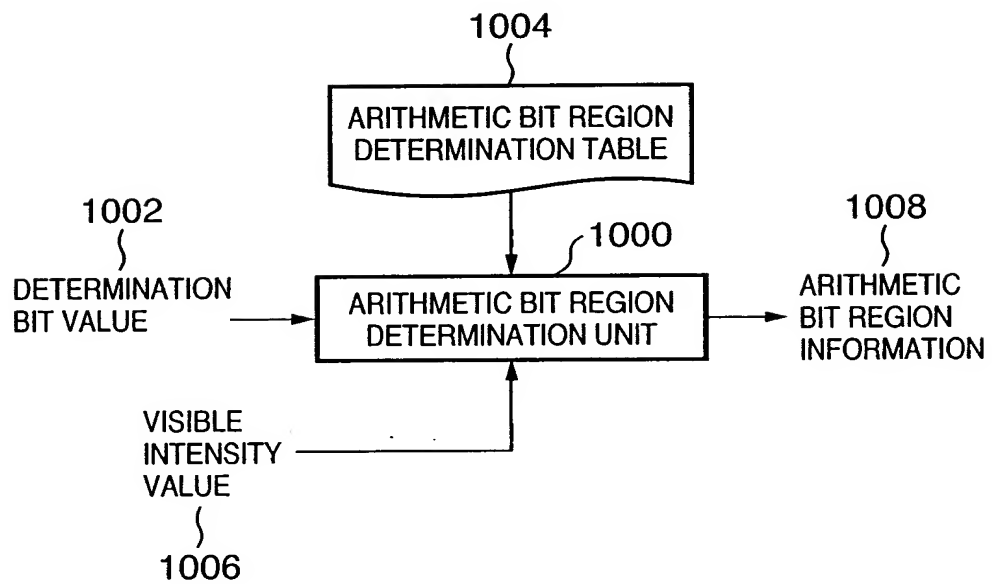


FIG. 11

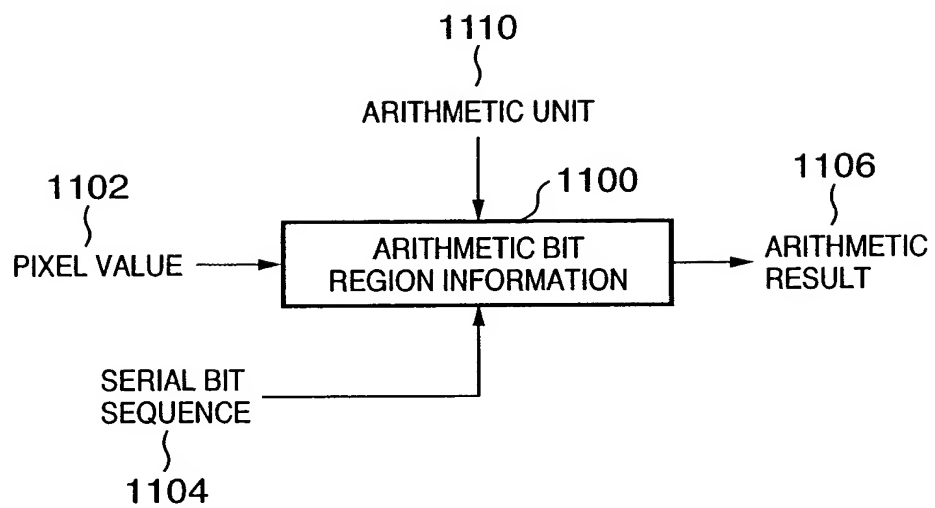


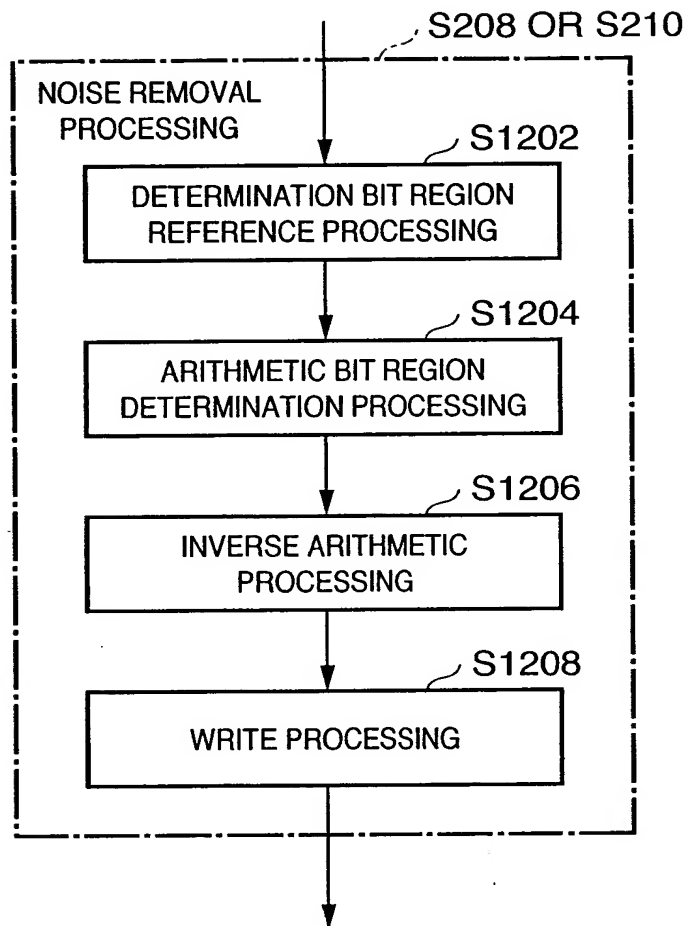
FIG. 12

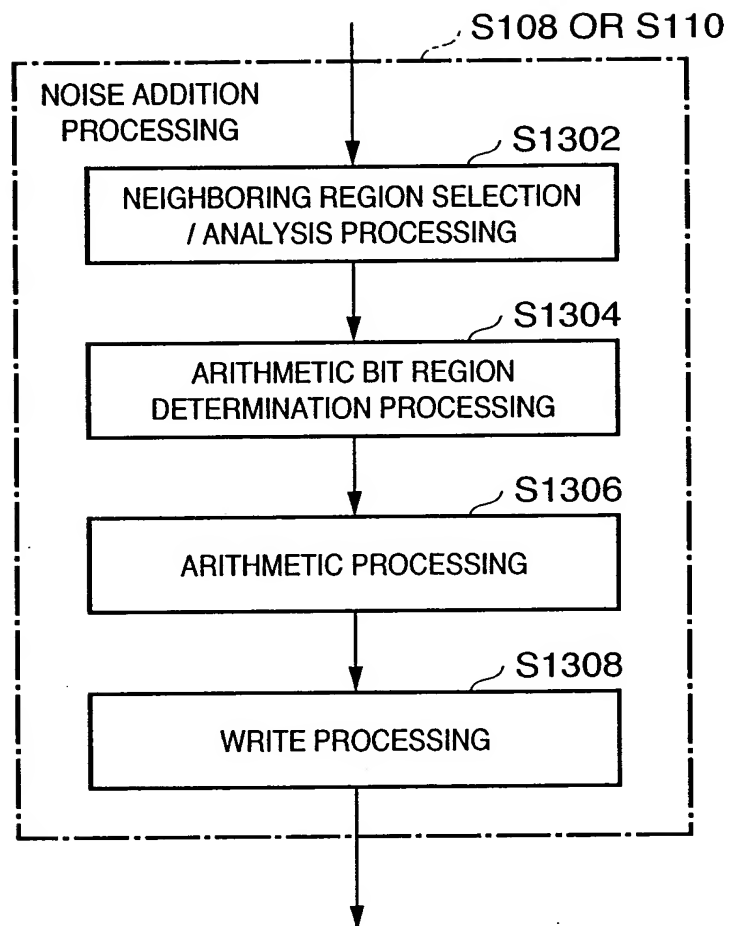
FIG. 13

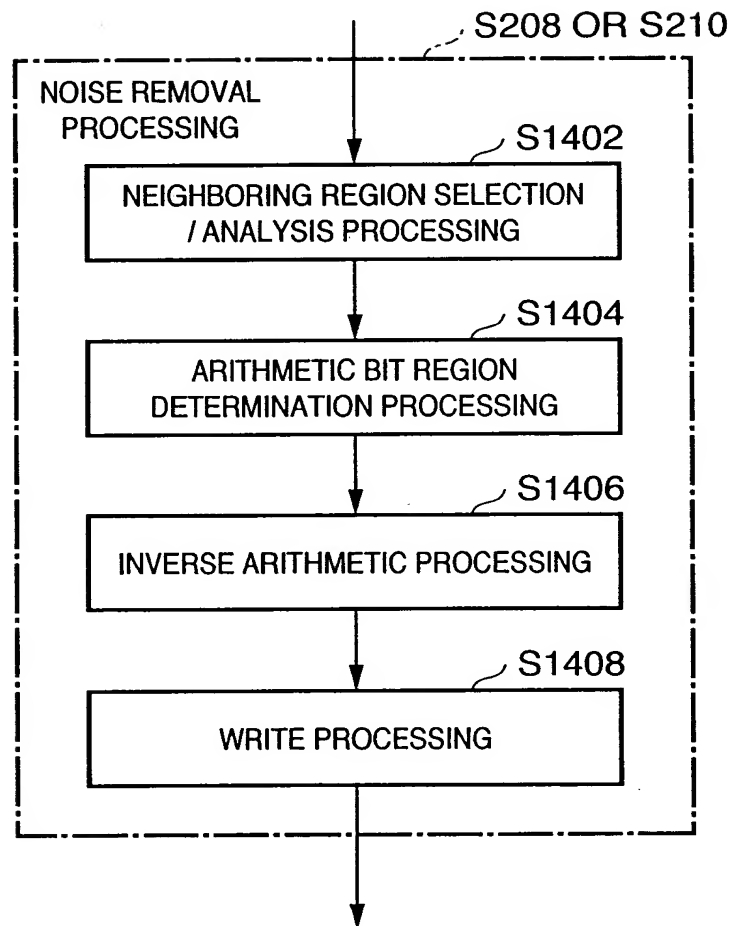

FIG. 14

FIG. 15

1501

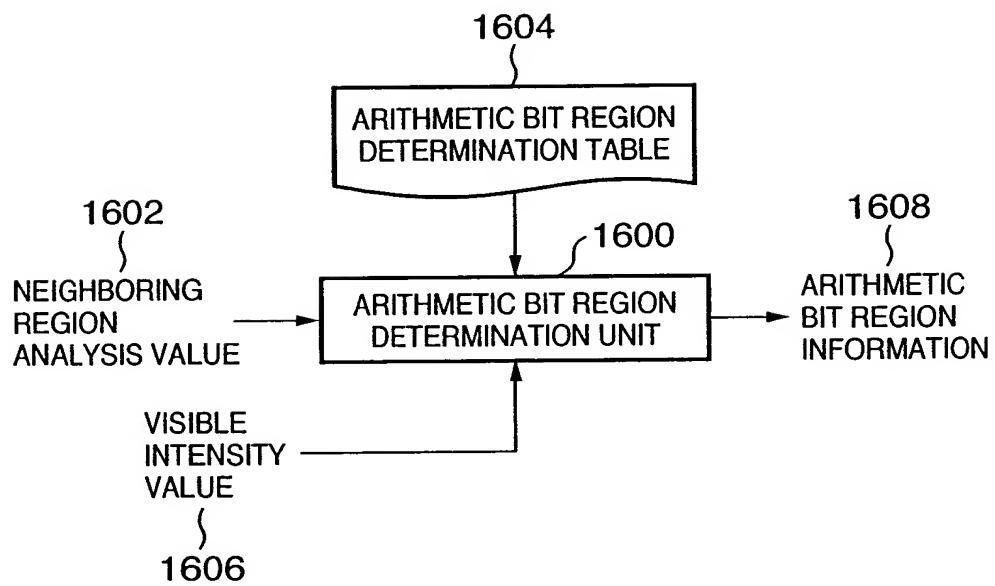


| | | | | |
|-------------------|-------------------|-------------------|-------------------|------------|
| <u>1a</u> 100 | <u>2a</u> 104 | <u>3a</u> 130 | <u>4a</u> | <u>5a</u> |
| <u>6a</u> 115 | <u>7a</u> 112 | <u>8a</u> 120 | <u>9a</u> | <u>10a</u> |
| <u>11a</u> 118 | <u>12a</u> 112 | <u>13a</u> 116 | <u>14a</u> 114 | <u>15a</u> |
| <u>16a</u> | <u>17a</u> | <u>18a</u> | <u>19a</u> | <u>20a</u> |
| <u>21a</u> | <u>22a</u> | <u>23a</u> | <u>24a</u> | <u>25a</u> |



1502

| | | | | |
|-------------------|-------------------|-------------------|------------------|------------|
| <u>1a</u> 100 | <u>2a</u> 104 | <u>3a</u> 130 | <u>4a</u> | <u>5a</u> |
| <u>6a</u> 115 | <u>7a</u> 112 | <u>8a</u> 120 | <u>9a</u> | <u>10a</u> |
| <u>11a</u> 118 | <u>12a</u> 112 | <u>13a</u> 126 | <u>14a</u> 98 | <u>15a</u> |
| <u>16a</u> | <u>17a</u> | <u>18a</u> | <u>19a</u> | <u>20a</u> |
| <u>21a</u> | <u>22a</u> | <u>23a</u> | <u>24a</u> | <u>25a</u> |

FIG. 16

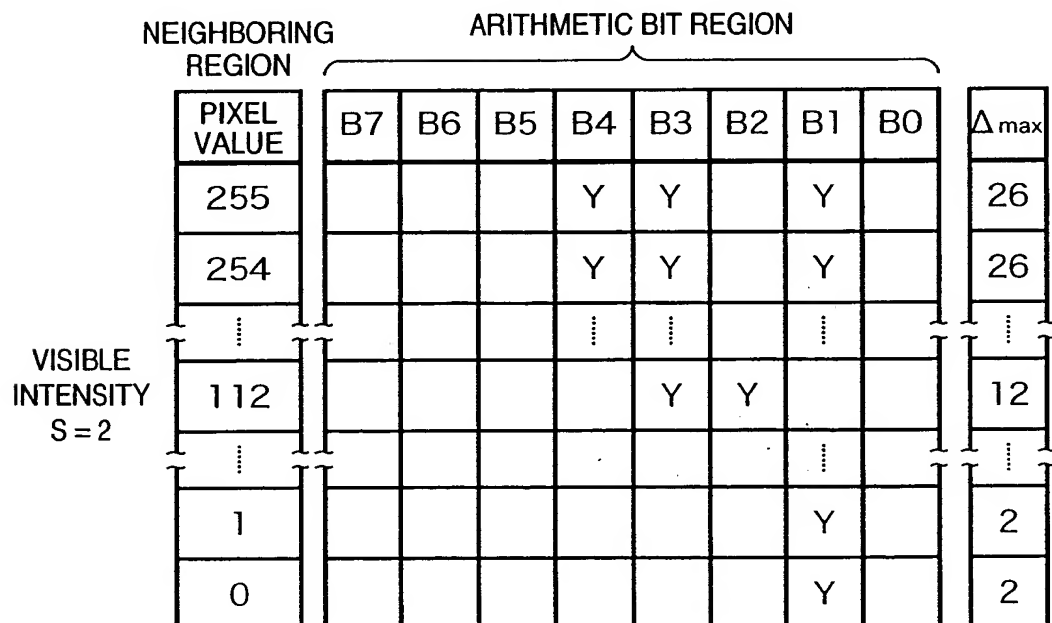


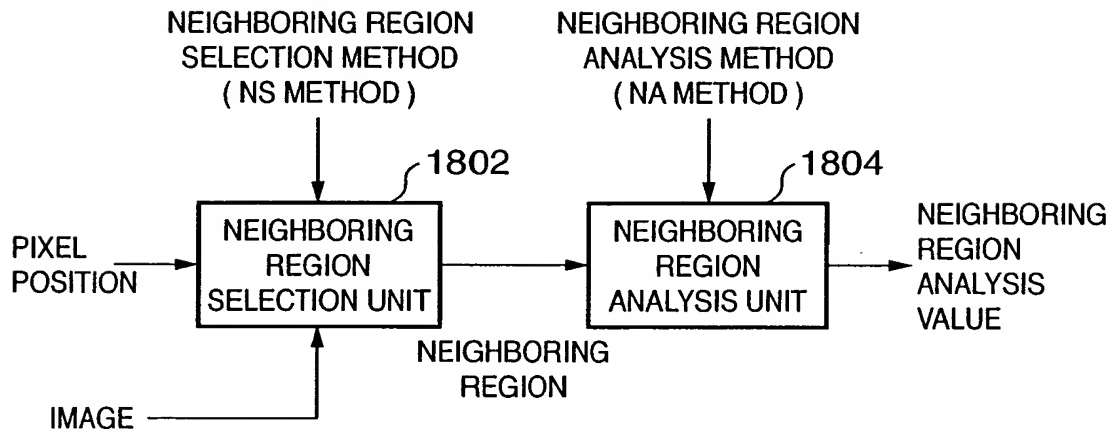
FIG. 18

FIG. 19

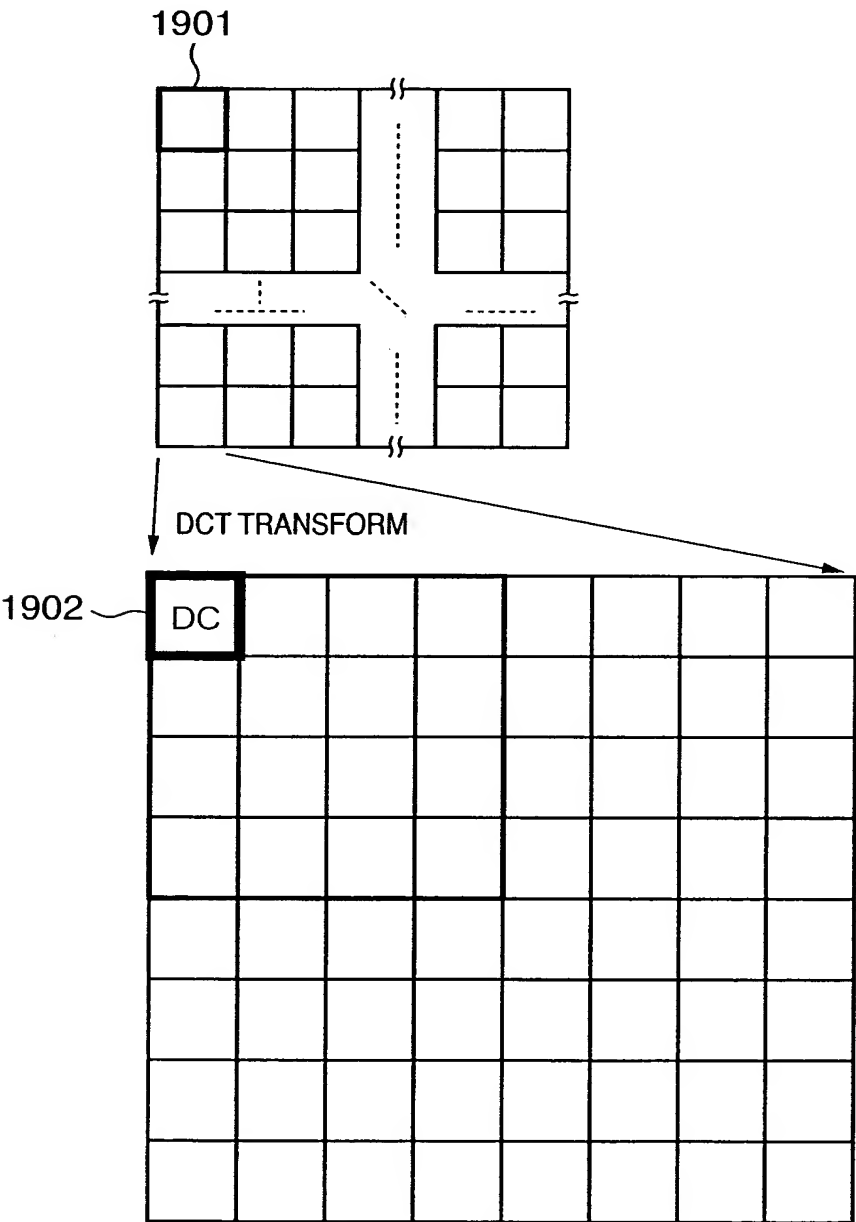


FIG. 20

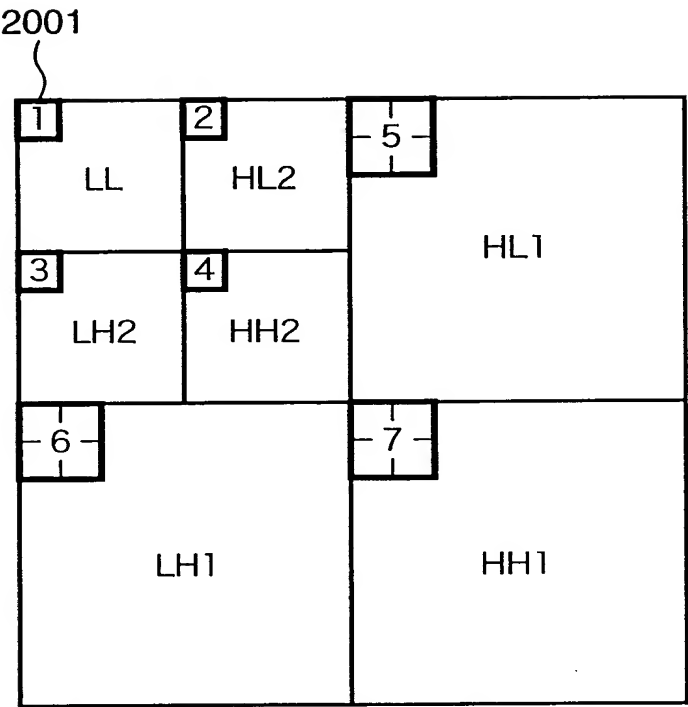
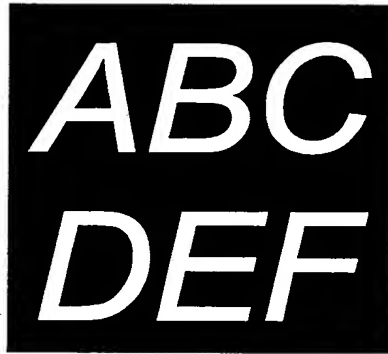


FIG. 212101
}

| VISIBLE INTENSITY VALUE | DWT COEFFICIENT OF NOISE ADDITION TARGET | | | | | | | |
|-------------------------|--|---|---|---|---|---|---|---|
| 1 | <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr></table> | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 2 | <table><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr></table> | 1 | 2 | 3 | 4 | | | |
| 1 | 2 | 3 | 4 | | | | | |
| 3 | <table><tr><td>1</td></tr></table> | 1 | | | | | | |
| 1 | | | | | | | | |

FIG. 22



23/25

FIG. 23



FIG. 24

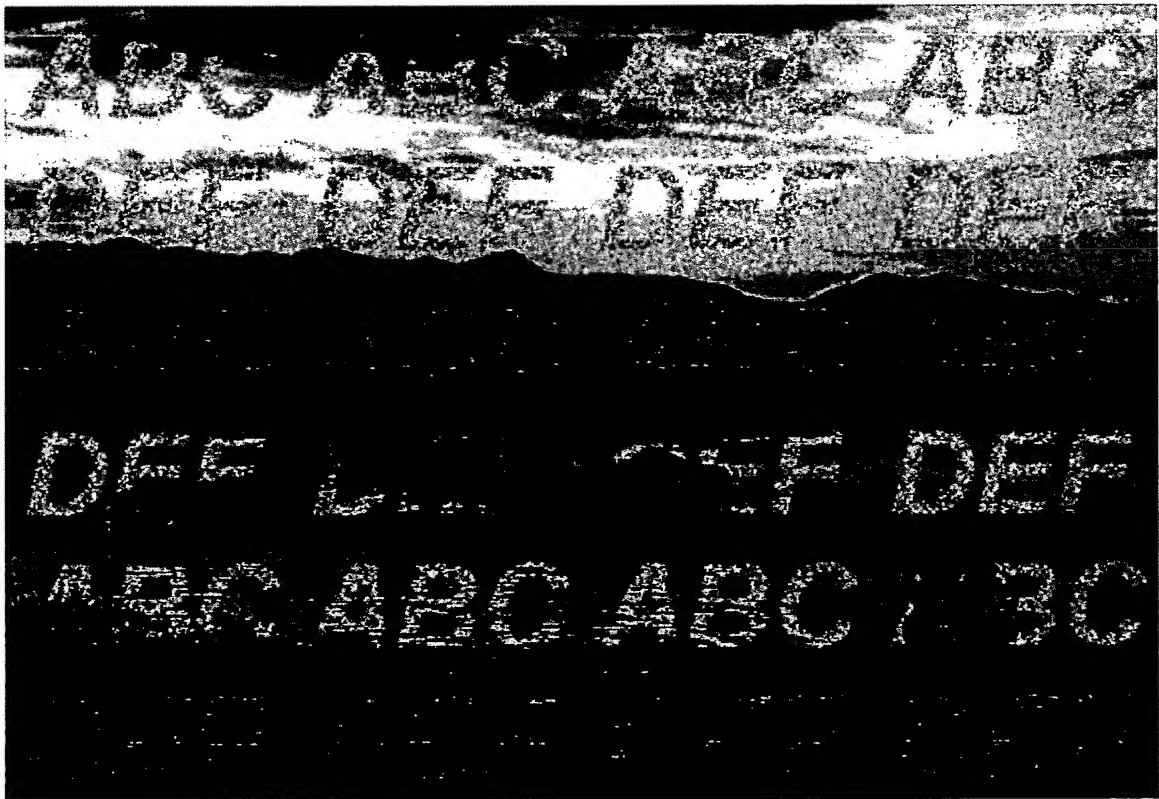


FIG. 25

